

QUIZ NAVIGATION

1	2	3	4	5
✓	✓	✓	✓	✓
6	7	8	9	10
✓	✓	✓	✓	✗

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Started on	Friday, 11 October 2024, 5:42 PM
State	Finished
Completed on	Friday, 11 October 2024, 5:49 PM
Time taken	6 mins 34 secs
Grade	9.00 out of 10.00 (90%)

Question 1

ID: 50078

Correct

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THE NEXT 8 QUESTIONS INCLUSIVE REFER TO THE FOLLOWING CASE:

KL is a 62-year-old female patient who presents to your clinic today. KL explains that for the last six months or so she has been feeling on edge, she has been having difficulty controlling her worries, she feels extremely fatigued, and has not been sleeping well. KL has been trying to control her worries with self-care strategies but has found little success. KL explains to you that she lost her job about a year ago and since then, she has not worked and has been unable to pay for her apartment and groceries. KL explained the only thing she has been doing lately is working out to take her mind off of things. KL also tells you that her mother suffered from panic attacks. KL's past medical history is significant for COPD, GERD, peripheral vascular disease, gout, and irritable bowel syndrome. KL's medications are tiotropium 18 mcg inhaled daily, Symbicort® 200/6 mcg 2 puffs inhaled BID, salbutamol 200 mcg 2 puffs inhaled q4h PRN, pantoprazole 40 mg PO daily, acetylsalicylic acid 81 mg PO daily, allopurinol 100 mg PO daily, and loperamide 2 mg PO after each bowel movement to a maximum of 8 tabs daily

Laboratory Parameters

Parameter	Value
TSH	3.46 mIU/L (0.5 - 4 milliunits/L)
HbA1C	5.7 % (4 - 5.6%)
Fasting Blood sugar	5.2 mmol/L (3.9 - 5.5 mmol/L)
Hgb	152 g/L (120 - 160 g/L in females)
Folate	9 nmol/L (4.1 - 20.4 nmol/L)

What type of anxiety disorder is KL most likely presenting with?

Select one:

 Generalized Anxiety Disorder (GAD)

Rose Wang (ID: 113212) this answer is correct. KL's symptoms match that of GAD where she cannot control her worries.

 Social Anxiety Disorder (SAD)

 Obsessive-Compulsive Disorder (OCD)

 Post-Traumatic Stress Disorder (PTSD)
Correct

Marks for this submission: 1.00/1.00.

TOPIC: Anxiety and related disorders**LEARNING OBJECTIVE:**

To differentiate the types of anxiety disorders.

BACKGROUND:

The state of anxiety is a natural, transient and adaptive reaction to real or perceived danger or stressful situations. However, when a person experiences irrational fears and possesses persistent and severe symptoms of anxiety to the point of impaired daily functioning and decreased quality of life, steps should be taken to properly diagnose and treat such symptoms which align with symptoms in patients with anxiety disorders. There are many different anxiety disorders, each with its own diagnostic criteria. An anxiety disorder is persistent, severe feelings of anxiety that lead to irrational fears. This then can hinder a person's day to day functioning.

Anxiety disorders include:

- Separation anxiety disorder
- Selective mutism
- Specific phobias
- Social anxiety disorder or Social Phobia (SP)
- Panic Disorder (PD)
- Agoraphobia

- Generalized Anxiety Disorder (GAD)
- Anxiety disorder due to another medical condition
- Substance/medication-induced anxiety disorder
- Other specified anxiety disorder
- Unspecified anxiety disorder

Although the pathophysiology of anxiety disorders can't be attributed to one single cause, there are many theories and associations that can describe the key neurotransmitters and brain areas involved with their development. The neurotransmitters thought to be involved in the pathophysiology of anxiety include norepinephrine (NE), serotonin (5-HT), gamma aminobutyric acid (GABA) and dopamine. Anxiety disorders are among the most common psychiatric illnesses with a lifetime prevalence as high as 31%. An anxiety disorder may present as an isolated diagnosis or in association with comorbid mood disorders, but they are often underdiagnosed and undertreated. In general, women are more likely than men to suffer from anxiety disorders. Other risk factors that may contribute to the development of an anxiety disorder include:

- Family or personal history of anxiety or mood disorders
- Stressful childhood life events or trauma
- Poverty, unemployment
- Isolation or loneliness
- Female gender
- Chronic illnesses such as cardiovascular disease or diabetes
- Drug causes

In terms of age of onset, separation anxiety disorders and phobias are more likely to appear earlier in childhood years (i.e. between 7 and 14 years of age), while panic disorders and generalized anxiety disorders are more likely to appear in the later years of life (i.e. between 25 and 50 years of age). Obsessive compulsive disorder arises more commonly in adolescence or as a young adult.

Anxiety symptoms may also occur as a result of experiencing withdrawal from certain medications. Examples of medications that can lead to withdrawals include antidepressants and benzodiazepines (BZDs). Therefore, it is important to counsel on the importance of adhering to the prescribed treatment and to consult healthcare providers before discontinuing any medications.

Clinical presentation of anxiety includes the following symptoms for at least 6 months:

- Worries that are difficult to control
- Feeling on-edge
- Poor concentration or mind going blank
- Restlessness
- Fatigue
- Muscle tension
- Sleep disturbances
- Irritability
- Impairment with social, occupational, or other areas
- Poor coping abilities

Screening for anxiety symptoms can provide clinicians with a baseline assessment of symptoms and help clinicians seek further assessment for patients in whom they suspect an anxiety disorder. In addition, risk factors such as family or personal history of anxiety or mood disorders, and socioeconomic environments (e.g. loneliness, low education, traumatic childhood, etc.) are associated with the development of anxiety, and should increase clinical suspicion if they are present. The following general questions may be used for screening:

- Feeling nervous, anxious, frightened, worried, or on edge
- Feeling panic or being frightened
- Avoiding situations that make you anxious

If an additional assessment is warranted based on clinical judgement, be sure to consider differential diagnoses as well. Anxiety symptoms can present with other psychiatric disorders, secondary to another medical condition, or secondary to substance/medication use or withdrawal. Thus it is important to do a thorough patient history in order to try and rule out other possible causes.

The following lab values may be useful for baseline laboratory investigations and ruling out potential medical or substance/drug causes of the patient's anxiety symptoms:

- Basic lab tests
 - Complete blood count
 - Fasting glucose
 - Fasting lipid profile (TC, vLDL, LDL, HDL, TG)
 - Thyroid-stimulating hormone
 - Electrolytes
 - Liver enzymes

- If warranted
 - Urinalysis (urine toxicology) for substance use

Generalized Anxiety Disorder

The key features of GAD include excessive, difficult-to-control anxiety and worry about multiple events or activities, accompanied by symptoms such as restlessness/feeling on edge or muscle tension on more days than not for 6 months or more. The lifetime prevalence of GAD is approximately 6%, and is more frequent in Caucasians compared to other groups. GAD is frequently underdiagnosed and undertreated. If it is present with a comorbid medical condition, the symptoms, economic impact, and degree of disability in these patients are more likely to be more severe.

GAD can have a negative impact on daily functioning, and can place economic burden on individuals and society in terms of missed work days and health care costs. Patients with GAD are also at an increased risk of developing a comorbid psychiatric disorder such as MDD, other anxiety and related disorders, pain syndromes, hypertension, cardiovascular conditions and gastric conditions.

RATIONALE:

Correct Answer:

- **Generalized Anxiety Disorder (GAD)** - KL's symptoms match that of GAD where she cannot control her worries.

Incorrect Answers:

- **Social Anxiety Disorder (SAD)** - SAD occurs when there is a fear of social situations which does not match KL's symptoms.
- **Obsessive-Compulsive Disorder (OCD)** - KL does not have any indication of obsessions or compulsions.
- **Post-Traumatic Stress Disorder (PTSD)** - There is no indication that KL's symptoms started after a traumatic event.

TAKEAWAY/KEY POINTS:

Generalized anxiety disorder occurs when there is an excessive feeling of worrying that is hard to control, even when there is no reason for control.

REFERENCES:

- [1] Katzman MA, Bleau P, Blier P, Chokka P, Kjernisted K, Van Ameringen M. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1. <http://bmcpsychiatry.biomedcentral.com/articles/10.1186/1471-244X-14-S1-S1>.
- [2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myrxtx.ca>.

The correct answer is: Generalized Anxiety Disorder (GAD)

Question 2

ID: 30079

Correct

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Which of the following is **NOT** a risk factor KL has for the development of Generalized Anxiety Disorder (GAD)?

Select one:

- Comorbid COPD ✕
- Gender ✕
- Active lifestyle ✎
- Unemployment ✕

Rose Wang (ID:113212) this answer is correct. An active lifestyle is not a risk factor for the development of anxiety.

Correct

Marks for this submission: 1.00/1.00

TOPIC: Anxiety and related disorders

LEARNING OBJECTIVE:

To recognize the risk factors for the development of anxiety disorders.

BACKGROUND:

The state of anxiety is a natural, transient and adaptive reaction to real or perceived danger or stressful situations. However, when a person experiences irrational fears and possesses persistent and severe symptoms of anxiety to the point of impaired daily functioning and decreased quality of life, steps should be taken to properly diagnose and treat such symptoms which align with symptoms in patients with anxiety disorders. There are many different anxiety disorders, each with its own diagnostic criteria. An anxiety disorder is persistent, severe feelings of anxiety that lead to irrational fears. This then can hinder a person's day to day functioning. Anxiety disorders include:

- Separation anxiety disorder
- Selective mutism
- Specific phobias

- Social anxiety disorder or Social Phobia (SP)
- Panic Disorder (PD)
- Agoraphobia
- Generalized Anxiety Disorder (GAD)
- Anxiety disorder due to another medical condition
- Substance/medication-induced anxiety disorder
- Other specified anxiety disorder
- Unspecified anxiety disorder

Although the pathophysiology of anxiety disorders can't be attributed to one single cause, there are many theories and associations that can describe the key neurotransmitters and brain areas involved with their development. The neurotransmitters thought to be involved in the pathophysiology of anxiety include norepinephrine (NE), serotonin (5-HT), gamma aminobutyric acid (GABA) and dopamine. Anxiety disorders are among the most common psychiatric illnesses with a lifetime prevalence as high as 31%. An anxiety disorder may present as an isolated diagnosis or in association with comorbid mood disorders, but they are often underdiagnosed and undertreated. In general, women are more likely than men to suffer from anxiety disorders. Other risk factors that may contribute to the development of an anxiety disorder include:

- Family or personal history of anxiety or mood disorders
- Stressful childhood life events or trauma
- Poverty, unemployment
- Isolation or loneliness
- Female gender
- Chronic illnesses such as cardiovascular disease, diabetes, COPD
- Drug causes

In terms of age of onset, separation anxiety disorders and phobias are more likely to appear earlier in childhood years (i.e. between 7 and 14 years of age), while panic disorders and generalized anxiety disorders are more likely to appear in the later years of life (i.e. between 25 and 50 years of age). Obsessive compulsive disorder arises more commonly in adolescence or as a young adult. Anxiety symptoms may also occur as a result of experiencing withdrawal from certain medications. Examples of medications that can lead to withdrawals include antidepressants and benzodiazepines (BZDs). Therefore, it is important to counsel on the importance of adhering to the prescribed treatment and to consult healthcare providers before discontinuing any medications. Clinical presentation of anxiety includes the following symptoms for at least 6 months:

- Worries that are difficult to control
- Feeling on-edge
- Poor concentration or mind going blank
- Restlessness
- Fatigue
- Muscle tension
- Sleep disturbances
- Irritability
- Impairment with social, occupational, or other areas
- Poor coping abilities

Screening for anxiety symptoms can provide clinicians with a baseline assessment of symptoms and help clinicians seek further assessment for patients in whom they suspect an anxiety disorder. In addition, risk factors such as family or personal history of anxiety or mood disorders, and socioeconomic environments (e.g. loneliness, low education, traumatic childhood, etc.) are associated with the development of anxiety, and should increase clinical suspicion if they are present. The following general questions may be used for screening:

- Feeling nervous, anxious, frightened, worried, or on edge
- Feeling panic or being frightened
- Avoiding situations that make you anxious

If an additional assessment is warranted based on clinical judgement, be sure to consider differential diagnoses as well. Anxiety symptoms can present with other psychiatric disorders, secondary to another medical condition, or secondary to substance/medication use or withdrawal. Thus it is important to do a thorough patient history in order to try and rule out other possible causes. The following lab values may be useful for baseline laboratory investigations and ruling out potential medical or substance/drug causes of the patient's anxiety symptoms:

- Basic lab tests
 - Complete blood count
 - Fasting glucose
 - Fasting lipid profile (TC, vLDL, LDL, HDL, TG)

- Thyroid-stimulating hormone
- Electrolytes
- Liver enzymes
- If warranted
 - Urinalysis (urine toxicology) for substance use

RATIONALE:

Correct Answer:

- **An active lifestyle** - An active lifestyle is not a risk factor for the development of anxiety.

Incorrect Answers:

- **Certain comorbidities including COPD** - Certain comorbidities including COPD increase the risk of developing anxiety.
- **Gender** - Females are at a higher risk of anxiety disorders than males.
- **Unemployment** - Unemployment is a risk factor for the development of anxiety orders.

TAKEAWAY/KEY POINTS:

Risk factors for the development of anxiety include a personal or family history of anxiety disorders, stressful childhood life events, poverty, unemployment, isolation, comorbidities, drug causes, and female gender.

REFERENCES:

- [1] Katzman MA, Bleau P, Blier P, Chokka P, Kjernisted K, Van Ameringen M. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1. <http://bmcpsychiatry.biomedcentral.com/articles/10.1186/1471-244X-14-S1-S1>.
- [2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myrxtx.ca>.

The correct answer is: Active lifestyle

Question 3

ID: 50081

Correct

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Which of KL's medical conditions could be contributing to her anxiety?

Select one:

- GERD
- Peripheral vascular disease
- Gout
- COPD

Rose Wang (ID:113212) this answer is correct. COPD can be a potential cause of anxiety.

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Anxiety

LEARNING OBJECTIVE:

To recognize the medical causes of anxiety.

BACKGROUND:

Medical conditions that may lead to anxiety symptoms include, but are not limited to:

- Cardiovascular conditions (e.g. congestive heart failure, hypertension, ischemic heart disease)
- Endocrine and metabolic conditions (e.g. diabetes, hyperthyroidism, vitamin B12 or folate deficiencies)
- Gastrointestinal conditions (e.g. Crohn's disease, irritable bowel syndrome, ulcerative colitis)
- Neurologic conditions (e.g. migraine, seizures, stroke, chronic pain)
- Respiratory conditions (e.g. asthma, chronic obstructive pulmonary disease, pneumonia)

If the medical condition is controlled, the patient's anxiety symptoms may subside. However, patients may experience anxiety and distress regardless of whether their condition is controlled as having the condition itself may cause anxiety. Substances and medications can lead to anxiety symptoms as a result of their mechanism of action, or while the substance or medication is discontinued (i.e. withdrawal symptoms). Classes of medications and substances that may lead to anxiety symptoms include, but are not limited to:

- Anticonvulsants (e.g. carbamazepine, phenytoin): anxiety symptoms may occur with abrupt discontinuation resulting in withdrawal
- Antidepressants (e.g. bupropion, SSRIs, SNRIs): anxiety symptoms as an adverse effect are normally transient when drug therapy is initiated or when the dose is increased, and will likely subside after a few weeks of use; symptoms may also occur upon abrupt discontinuation (resulting in withdrawal) if the patient has been on the medication for a minimum of 6 weeks

- Antihypertensives (e.g. clonidine, telodipine): anxiety symptoms may occur with discontinuation of anti-hypertensives, as increased blood pressure can trigger anxiety symptoms
- Antibiotics (e.g. quinolones, isoniazid): fluoroquinolones and isoniazid have been shown to induce dose-dependent neuroexcitatory effects that may lead to mental status changes (including the development of anxiety) with toxic levels
- Bronchodilators (e.g. albuterol, salbutamol, theophylline): anxiety symptoms may result from medication use; symptoms may increase with higher doses
- Corticosteroids (e.g. prednisone): anxiety, agitation, and insomnia may result from medication use; patients should be advised to take the medication upon awakening
- Dopamine agonists (e.g. amantadine, levodopa): anxiety symptoms may result from medication use; symptoms may increase with higher doses
- Herbals (e.g. Ma Huang (i.e. ephedra), ginseng): anxiety symptoms may result from medication use; symptoms may increase with higher doses
- Illicit substances (e.g. ecstasy, marijuana): anxiety symptoms may be caused as an adverse effect of these substances, or as a symptom of withdrawal; symptoms may increase with higher doses
- Nonsteroidal anti-inflammatory drugs (e.g. ibuprofen, indomethacin): anxiety symptoms may result from medication use
- Stimulants (e.g. amphetamines, caffeine, cocaine, nicotine): anxiety symptoms may result from medication use; or as a symptom of withdrawal; symptoms may increase with higher doses, especially in toxicity
- Sympathomimetics (e.g. pseudoephedrine, phenylephrine): anxiety symptoms may result from medication use; symptoms may increase with higher doses
- Thyroid hormones (e.g. levothyroxine): anxiety symptoms may result from medication use; symptoms can be pronounced in toxicity (i.e. thyrotoxicosis)

Anxiety symptoms may also occur as a result of experiencing withdrawal from certain medications. Examples of medications that can lead to withdrawals include antidepressants and benzodiazepines (BZDs). Therefore, it is important to counsel on the importance of adhering to the prescribed treatment and to consult healthcare providers before discontinuing any medications.

RATIONALE:

Correct Answer:

- **COPD** - COPD is listed as a respiratory condition that may lead to anxiety symptoms.

Incorrect Answers:

- **GERD** - GERD is not listed among the conditions that can lead to anxiety symptoms.
- **Peripheral vascular disease** - Peripheral vascular disease is not listed among the conditions that can lead to anxiety symptoms.
- **Gout** - Gout is not listed among the conditions that can lead to anxiety symptoms.

TAKEAWAY/KEY POINTS:

Medical causes of anxiety include angina, hyperparathyroidism, hyperthyroidism, hypoglycemia, hyperkalemia, folate deficiencies, poor pain control, asthma, COPD, anemia, and lupus.

REFERENCE:

[1] Katzman MA, Bleau P, Blier P, Chokka P, Kjernisted K, Van Ameringen M. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1. <http://bmcpychiatry.biomedcentral.com/articles/10.1186/1471-244X-14-S1-S1>.

[2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myrxtx.ca>.

The correct answer is: COPD

Question 4

ID: 50082

Correct

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Which of KL's medications may be contributing to her anxiety?

Select one:

- Salbutamol ✓
- Pantoprazole ✗
- Loperamide ✗
- Acetylsalicylic acid ✗

Rose Wang (ID:113212) this answer is correct. Salbutamol can cause symptoms of anxiety.

Correct

Marks for this submission: 1.00/1.00

TOPIC: Anxiety

LEARNING OBJECTIVE:

To recognize the medication causes of anxiety.

BACKGROUND:

Medical conditions that may lead to anxiety symptoms include, but are not limited to:

- Cardiovascular conditions (e.g. congestive heart failure, hypertension, ischemic heart disease)
- Endocrine and metabolic conditions (e.g. diabetes, hyperthyroidism, vitamin B12 or folate deficiencies)
- Gastrointestinal conditions (e.g. Crohn's disease, irritable bowel syndrome, ulcerative colitis)
- Neurologic conditions (e.g. migraine, seizures, stroke, chronic pain)
- Respiratory conditions (e.g. asthma, chronic obstructive pulmonary disease, pneumonia)

If the medical condition is controlled, the patient's anxiety symptoms may subside. However, patients may experience anxiety and distress regardless of whether their condition is controlled as having the condition itself may cause anxiety.

Substances and medications can lead to anxiety symptoms as a result of their mechanism of action, or while the substance or medication is discontinued (i.e. withdrawal symptoms). Classes of medications and substances that may lead to anxiety symptoms include, but are not limited to:

- Anticonvulsants (e.g. carbamazepine, phenytoin): anxiety symptoms may occur with abrupt discontinuation resulting in withdrawal
- Antidepressants (e.g. bupropion, SSRIs, SNRIs): anxiety symptoms as an adverse effect are normally transient when drug therapy is initiated or when the dose is increased, and will likely subside after a few weeks of use; symptoms may also occur upon abrupt discontinuation (resulting in withdrawal) if the patient has been on the medication for a minimum of 6 weeks
- Antihypertensives (e.g. clonidine, felodipine): anxiety symptoms may occur with discontinuation of anti-hypertensives, as increased blood pressure can trigger anxiety symptoms
- Antibiotics (e.g. quinolones, isoniazid): fluoroquinolones and isoniazid have been shown to induce dose-dependent neuroexcitatory effects that may lead to mental status changes (including the development of anxiety) with toxic levels
- Bronchodilators (e.g. albuterol, salbutamol, theophylline): anxiety symptoms may result from medication use; symptoms may increase with higher doses
- Corticosteroids (e.g. prednisone): anxiety, agitation, and insomnia may result from medication use; patients should be advised to take the medication upon awakening
- Dopamine agonists (e.g. amantadine, levodopa): anxiety symptoms may result from medication use; symptoms may increase with higher doses
- Herbals (e.g. Ma Huang (i.e. ephedra), ginseng): anxiety symptoms may result from medication use; symptoms may increase with higher doses
- Illicit substances (e.g. ecstasy, marijuana): anxiety symptoms may be caused as an adverse effect of these substances, or as a symptom of withdrawal; symptoms may increase with higher doses
- Nonsteroidal anti-inflammatory drugs (e.g. ibuprofen, indomethacin): anxiety symptoms may result from medication use
- Stimulants (e.g. amphetamines, caffeine, cocaine, nicotine): anxiety symptoms may result from medication use; or as a symptom of withdrawal; symptoms may increase with higher doses, especially in toxicity
- Sympathomimetics (e.g. pseudoephedrine, phenylephrine): anxiety symptoms may result from medication use; symptoms may increase with higher doses
- Thyroid hormones (e.g. levothyroxine): anxiety symptoms may result from medication use; symptoms can be pronounced in toxicity (i.e. thyrotoxicosis)

Anxiety symptoms may also occur as a result of experiencing withdrawal from certain medications. Examples of medications that can lead to withdrawals include antidepressants and benzodiazepines (BZDs). Therefore, it is important to counsel on the importance of adhering to the prescribed treatment and to consult healthcare providers before discontinuing any medications.

RATIONALE:

Correct Answer:

- **Salbutamol** - Salbutamol can cause symptoms of anxiety.

Incorrect Answers:

- **Pantoprazole** - Pantoprazole is not known to cause symptoms of anxiety.
- **Loperamide** - Loperamide is not known to cause symptoms of anxiety.
- **Acetylsalicylic acid** - Acetylsalicylic acid is not known to cause symptoms of anxiety.

TAKEAWAY/KEY POINTS:

Medication causes of anxiety include salbutamol, theophylline, digoxin, anticholinergic, antihistamines, carbamazepine, stimulants, felodipine, prednisone, pseudoephedrine, ibuprofen, levodopa, levothyroxine, quinolone, isoniazid, SSRIs, and TCAs.

REFERENCE:

- [1] Kretschmar WA, Bleau P, Blier P, Chokka P, Njermisted R, van Ameringen M. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1. <http://bmcpsychiatry.biomedcentral.com/articles/10.1186/1471-244X-14-S1-S1>.
- [2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myrxtx.ca>.

The correct answer is: Salbutamol

Question 5

ID: 50085

Correct

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Which of the following is **NOT** an appropriate non-pharmacological recommendation for KL to help control her anxiety?

Select one:

- Encouraging sleep hygiene
- Cognitive-behavioral therapy
- Motivational interviewing
- Avoiding caffeine

Rose Wang (ID:113212) this answer is correct. Motivational interviewing is not a non-pharmacological recommendation for the treatment of anxiety.

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Anxiety and related disorders

LEARNING OBJECTIVE:

To recognize the non-pharmacological recommendations for the treatment of anxiety.

BACKGROUND:

Non-pharmacological options should be offered as an initial therapy or as an adjunctive treatment to pharmacological treatments if individual patient factors and preferences allow for successful treatment using these techniques. In the case of anxiety disorders, non-pharmacological options include the use of stress management and relaxation techniques (e.g., finding a strong support system), as well as formal psychological treatments (i.e., Cognitive Behavioural Therapy (CBT)). The use of caffeine and other stimulants should also be minimized as they can enhance the symptoms of anxiety. Aerobic exercise a few times per week may also be recommended, as this may help to reduce some anxiety symptoms.

CBT is a structured series of individual or group-format psychotherapy sessions that helps patients to identify the thoughts, behaviours and attitudes that maintain their emotional disorders, including anxiety. Once identified, the treatment aims to restructure negative thoughts, behaviours and attitudes through cognitive and behavioural techniques. Examples of treatment strategies include:

- Exposure
 - Encouraging patients to face fears
 - Learning corrective information through experience
 - Inducing the extinction of fear through repeated exposure
 - Encouraging successful coping to enhance self-efficacy
- Safety response inhibition
 - Restriction of usual anxiety-reducing behaviours (e.g., escape, need for reassurance)
 - Decreasing negative reinforcement
 - Coping with anxiety without using anxiety-reducing behaviour enhances self-efficacy
- Cognitive strategies
 - Cognitive restructuring, behavioural experiments, and related strategies to target patients' exaggerated perception of danger (e.g., fear of negative evaluation in SAD)
 - Providing corrective information regarding the level of threat
 - Can also target self-efficacy beliefs
- Arousal management
 - Introducing relaxation and breathing control skills to help patient control increased anxiety levels
- Surrender of safety signals
 - Relinquishing safety signals (e.g., presence of a companion, knowledge of the location of the nearest toilet)
 - Learning adaptive self-efficacy beliefs

RATIONALE:

Correct Answer:

- **Motivational interviewing** - Motivational interviewing is NOT a non-pharmacological recommendation for the treatment of anxiety.

Incorrect Answers:

- **Sleep hygiene** - Sleep hygiene can help treat anxiety.
- **Cognitive behavioural therapy** - Cognitive behavioural therapy is the first-line recommendation for the treatment of anxiety.
- **Avoiding caffeine** - Avoiding caffeine can help treat anxiety.

TAKEAWAY/KEY POINTS:

Non-pharmacological therapy for anxiety includes avoiding caffeine, stimulants, and excessive alcohol and diet pills, exposure-based techniques which are effective for specific phobia, relaxation training and time management training, encouraging regular sleep habits and sleep hygiene, aerobic exercise, and cognitive-behavioral therapy.

REFERENCE:

- [1] Katzman MA, Bleau P, Blier P, Chokka P, Kjernisted K, Van Ameringen M. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1.
<http://bmcpsycho.biomedcentral.com/articles/10.1186/1471-244X-14-S1-S1>.
- [2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myrxtx.ca>.

The correct answer is: Motivational interviewing

Question 6

ID: 50086

Correct

Flag question

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What is an appropriate pharmacological treatment option for KL?

Select one:

- Pregabalin ✓
- Clonazepam ✗
- Bupropion ✗
- Phenelzine ✗

Rose Wang (ID:113212) this answer is correct. Pregabalin is a recommended first-line for the treatment of GAD.

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Anxiety and related disorders

LEARNING OBJECTIVE:

To understand the appropriate first-line treatment of Generalized Anxiety Disorder (GAD).

BACKGROUND:

CBT administered in group or individual formats has been shown to be effective in significantly reducing GAD symptoms. Currently, the combination of CBT and pharmacological therapy is not routinely used but may still be recommended. If patients do not benefit from CBT or have a limited response, pharmacological therapy should be recommended. First-line pharmacological treatments include agomelatine, duloxetine, escitalopram, paroxetine, pregabalin, sertraline and venlafaxine XR. The choice of first-line therapy depends on individual patient factors. Pregabalin has the additional advantage of providing a rapid onset of relief (i.e. about one week) compared to SSRIs and SNRIs however its side effect profile significantly limits its use. Second-line pharmacological treatments include alprazolam, bromazepam, bupropion XL, buspirone, diazepam, hydroxyzine, imipramine, lorazepam, quetiapine XR and vortioxetine. Although BZDs have been shown to be effective in the treatment of GAD, they are considered a second-line treatment due to their lack of efficacy on common comorbidities and their abuse/dependence potential in patients with a history of substance use disorder.

RATIONALE:

Correct Answer:

- **Pregabalin** - Pregabalin is a recommended first-line for the treatment of GAD.

Incorrect Answers:

- **Clonazepam** - Clonazepam is a benzodiazepine and is not recommended first-line for the treatment of GAD.
- **Bupropion** - Bupropion is a second-line treatment option for the treatment of GAD.
- **Phenelzine** - Phenelzine is an MAOI and is not recommended first-line for the treatment of GAD.

TAKEAWAY/KEY POINTS:

Agomelatine, duloxetine, escitalopram, paroxetine, pregabalin, sertraline, and venlafaxine are recommended first-line for the treatment of GAD.

REFERENCE:

- [1] Katzman MA, Bleau P, Blier P, Chokka P, Kjernisted K, Van Ameringen M. Canadian clinical practice

guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1.
[2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myrxtx.ca>.

The correct answer is: Pregabalin

Question 7

ID: 50088

Correct

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Which of the following statements is **NOT** an appropriate counselling point for pregabalin in the treatment of Generalized Anxiety Disorder (GAD)?

Select one:

- Caution should be taken if combined with other CNS depressants such as opioids or alcohol ✖
- Side effects of pregabalin include drowsiness, fatigue, impaired coordination, diplopia, and peripheral edema ✖
- Pregabalin will need to be titrated up to a significantly elevated dose (i.e. up to 600 mg PO daily) ✖
- Compared to other first-line agents for GAD, pregabalin may take longer (e.g. 6-8 weeks) to experience any noticeable effects ✓

Rose Wang (ID:113212) this answer is correct. Compared to other first-line agents, pregabalin provides a rapid onset of relief (e.g. 1 week).

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Anxiety

LEARNING OBJECTIVE:

To understand key counselling points for pregabalin in the treatment of Generalized Anxiety Disorder (GAD).

BACKGROUND:

Anticonvulsants (i.e. pregabalin or gabapentin), like antipsychotics, may be used primarily as adjunctive therapy in patients presenting with partial relief from SSRIs or SNRIs. An exception is pregabalin which can be used as monotherapy in Social Phobia (SP) or Generalized Anxiety Disorder (GAD) at significantly elevated doses as an alternative first-line agent however it is not commonly used due to its side effect profile (e.g. significant drowsiness) at high doses. Side effects of pregabalin and gabapentin include drowsiness, fatigue, impaired coordination, diplopia, and peripheral edema. Caution should be taken if combined with other CNS depressants such as opioids or alcohol. A major benefit of using pregabalin over a SSRI/SNRI is the rapid onset of action (1 week).

RATIONALE:

Correct Answer:

- **Compared to other first-line agents for GAD, pregabalin may take longer (e.g. 6-8 weeks) to experience any noticeable effects** - Compared to other first-line agents, pregabalin provides a rapid onset of relief (e.g. 1 week).

Incorrect Answers:

- **Caution should be taken if combined with other CNS depressants such as opioids or alcohol** - CNS depressants present important drug interactions with pregabalin.
- **Side effects of pregabalin include drowsiness, fatigue, impaired coordination, diplopia, and peripheral edema** - These are common side effects of pregabalin.
- **Pregabalin will need to be titrated up to a significantly elevated dose (i.e. up to 600 mg PO daily)** - Pregabalin can be used as monotherapy in GAD but it must be given at significantly elevated doses (target 150–600 mg PO daily).

TAKEAWAY/KEY POINTS:

Pregabalin is an alternate first-line agent in the treatment of GAD and can be used as monotherapy in both Social Phobia (SP) or Generalized Anxiety Disorder (GAD) at significantly elevated doses, however, it is not commonly used due to its side effect profile at high doses. Side effects of pregabalin include drowsiness, fatigue, impaired coordination, diplopia, and peripheral edema and caution should be taken if combined with other CNS depressants such as opioids or alcohol. An advantage of pregabalin in the treatment of GAD is its rapid onset of relief (i.e. about one week) compared to SSRIs and SNRIs.

REFERENCES:

- [1] Katzman MA, Bleau P, Blier P, Chokka P, Kjernisted K, Van Ameringen M. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1.
<http://bmcpshiatry.biomedcentral.com/articles/10.1186/1471-244X-14-S1-S1>.
- [2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myrxtx.ca>.

The correct answer is: Compared to other first-line agents for GAD, pregabalin may take longer (e.g. 6-8 weeks) to experience any noticeable effects

Question 8

ID: 50094

Correct

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It has been 6 weeks and KL is still on her starting dose of pregabalin and has only noticed a mild improvement in her anxiety symptoms.

What is an appropriate next step in regards to KL's anxiety treatment?

Select one:

- Stop KL's pregabalin and start venlafaxine ✗
- Cross taper off KL's pregabalin and start duloxetine ✗
- Increase KL's pregabalin dose ✓ *Rose Wang (ID:113212) this answer is correct. Since KL is experiencing mild benefit from pregabalin, increasing the dose may provide more benefit.*
- Add clonazepam to KL's pregabalin ✗

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Anxiety

LEARNING OBJECTIVE: To understand how to titrate and taper medications for the treatment of anxiety.

BACKGROUND:

Anticonvulsants (i.e. pregabalin or gabapentin), like antipsychotics, may be used primarily as adjunctive therapy in patients presenting with partial relief from SSRIs or SNRIs. An exception is pregabalin which can be used as monotherapy in Social Phobia (SP) or Generalized Anxiety Disorder (GAD) at significantly elevated doses as an alternative first-line agent; however, it is not commonly used due to its side effect profile (e.g. significant drowsiness) at high doses. Side effects of pregabalin and gabapentin include drowsiness, fatigue, impaired coordination, diplopia, and peripheral edema. Caution should be taken if combined with other CNS depressants such as opioids or alcohol. A major benefit of using pregabalin over a SSRI/SNRI is the rapid onset of action (1 week). If the patient is tolerating the drug at the given dose and only experiencing some relief, the dose should be increased. If there is no improvement at the maximum dose of the drug, it would need to be switched for a different agent.

RATIONALE:

Correct Answer:

- **Increase KL's pregabalin dose** - Since KL is experiencing mild benefit from pregabalin, increasing the dose may provide more benefit.

Incorrect Answers:

- **Stop KL's pregabalin and start venlafaxine OR Cross taper off KL's pregabalin and start duloxetine** - Since KL has experienced mild benefit on pregabalin, it does not make sense to stop the medication.
- **Add clonazepam to KL's pregabalin** - Adding clonazepam is not a long-term solution to help control KL's anxiety.

TAKEAWAY/KEY POINTS:

If there is no improvement in anxiety or anxiety symptoms, the dose of the medication can be increased or, if at the maximum dose, switch to a different medication.

REFERENCES:

[1] Katzman MA, Bleau P, Blier P, Chokka P, Kjernisted K, Van Ameringen M. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1. <http://bmcpsycho.biomedcentral.com/articles/10.1186/1471-244X-14-S1-S1>.

[2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myrxtx.ca>.

The correct answer is: Increase KL's pregabalin dose

Question 9

ID: 50089

Correct

Flag question

Send Feedback

PW is a 37-year-old female who was just diagnosed with Obsessive Compulsive Disorder (OCD). PW's past medical history is significant for gastroparesis and B12 deficiency anemia. PW's medications are metoclopramide 10 mg TID PRN and cyanocobalamin 1200 mcg daily.

What is the most appropriate first-line pharmacological treatment for PW's OCD?

Select one:

- Duloxetine ✗
- Amitriptyline ✗
- Venlafaxine ✗
- Sertraline ✓ *Rose Wang (ID:113212) this answer is correct. Sertraline is a first-line medication for the treatment of OCD.*

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Anxiety

LEARNING OBJECTIVE:

To recognize the first-line treatments for Obsessive Compulsive Disorder (OCD).

BACKGROUND:

Summary of Treatments for Anxiety Disorders

Type of Anxiety	First-line Treatment	Second-line Treatment
PD	Citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline, venlafaxine	Imipramine, clomipramine, mirtazapine, alprazolam, clonazepam, diazepam, lorazepam
SAD	Escitalopram, fluvoxamine, paroxetine, sertraline, venlafaxine, pregabalin	Alprazolam, clonazepam, bromazepam, citalopram, gabapentin, phenelzine
OCD	Escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline	Citalopram, clomipramine, mirtazapine, venlafaxine
PTSD	Fluoxetine, paroxetine, sertraline, venlafaxine	Fluvoxamine, mirtazapine, phenelzine
GAD	Escitalopram, paroxetine, sertraline, venlafaxine, duloxetine, pregabalin, agomelatine	Alprazolam, bromazepam, lorazepam, diazepam, bupropion, buspirone, hydroxyzine, imipramine, Quetiapine XR, Vortioxetine

*Note: benzodiazepines should be used short-term while other medications are waiting to take effect. If there is no improvement in anxiety or anxiety symptoms the dose of the medication can be increased or if at the maximum dose, switched to a different medication.

RATIONALE:

Correct Answer:

- Sertraline** - Sertraline is a first-line medication for the treatment of OCD.

Incorrect Answers:

- Duloxetine** - Duloxetine is not recommended first-line for the treatment of OCD.
- Amitriptyline** - Amitriptyline is not recommended first-line for the treatment of OCD.
- Venlafaxine** - Venlafaxine is not recommended first-line for the treatment of OCD.

TAKEAWAY/KEY POINTS:

First-line drug therapy agents for OCD are escitalopram, fluoxetine, fluvoxamine, paroxetine, and sertraline.

REFERENCE:

[1] Katzman MA, Bleau P, Blier P, Chokka P, Kjernisted K, Van Ameringen M. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1. <http://bmcpsychotherapy.biomedcentral.com/articles/10.1186/1471-244X-14-S1-S1>.

[2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myrxtx.ca>.

The correct answer is: Sertraline

Question 10

ID: 50095

Incorrect

Flag question

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FG is a 35-year-old male who was recently prescribed phenelzine 30 mg PO daily for Post-Traumatic Stress Disorder (PTSD) after multiple trials of various first-line medication options. This is the first Monoamine Oxidase inhibitor (MAOI) that he has tried for his condition. He is currently taking fluoxetine 80 mg PO daily, which he has been taking for 8 weeks with no improvement in his anxiety symptoms, so the doctor has stopped it and replaced it with this new medication.

Which of the following counselling points regarding phenelzine is **INCORRECT**?

Select one:

- FG should avoid consuming foods and beverages that are aged, fermented, or spoiled while on phenelzine
- Rose Wang (ID: 113212) this answer is incorrect. If patients consume tyramine-rich foods and beverages while on irreversible MAOI drug therapy (e.g. phenelzine), they are at increased risk of a potentially fatal tyramine-associated hypertensive crisis.*
- A washout period of at least 4 weeks is required when switching from fluoxetine to phenelzine
- Common side effects of phenelzine include palpitations, orthostatic hypotension, sexual dysfunction, weight gain, and headaches
- Phenelzine is best dosed in the morning to avoid insomnia as a side effect

Incorrect

Marks for this submission: 0.00/1.00.

TOPIC: Anxiety

LEARNING OBJECTIVE:

To understand important counselling points for irreversible MAOIs (i.e., phenelzine and tranylcypromine) in the treatment of anxiety disorders.

BACKGROUND:

Due to the increased side effects, increased discontinuation rates and increased potential for toxicity in overdose associated with Monoamine Oxidase Inhibitors (MAOIs), they are usually reserved for second-line or third-line treatment options if previous trials of SSRIs or SNRIs have not been effective at optimal doses. Examples of MAOIs include irreversible MAOIs (phenelzine, tranylcypromine), and reversible MAOIs (moclobemide). Side effects of MAOIs include palpitations, tachycardia, orthostatic hypotension, sexual dysfunction (phenelzine and tranylcypromine), anticholinergic effects, weight gain, cardiac effects, headaches, nausea, and vomiting. Additionally, insomnia and overstimulation may occur, which is why it is often recommended to dose MAOIs in the morning. Reversible MAOIs (moclobemide) tend to be better tolerated than irreversible MAOIs (phenelzine and tranylcypromine), specifically in terms of less sexual dysfunction and the lack of interaction with tyramine. If patients consume tyramine-rich foods and beverages while on irreversible MAOI drug therapy, they are at increased risk of a potentially fatal tyramine-associated hypertensive crisis.

RATIONALE:

Correct Answer:

- A washout period of at least 4 weeks is required when switching from fluoxetine to phenelzine -**
A washout period of at least 5 weeks is required when switching from fluoxetine to phenelzine because of fluoxetine's long half-life.

Incorrect Answers:

- FG should avoid consuming foods and beverages that are aged, fermented, or spoiled while on phenelzine -** If patients consume tyramine-rich foods and beverages while on irreversible MAOI drug therapy (e.g., phenelzine) they are at increased risk of a potentially fatal tyramine-associated hypertensive crisis.
- Common side effects of phenelzine include palpitations, orthostatic hypotension, sexual dysfunction, weight gain, and headaches -** These are some common side effects of irreversible MAOIs (i.e., phenelzine, tranylcypromine).
- Phenelzine is best dosed in the morning to avoid insomnia as a side effect -** Insomnia is a common side effect of phenelzine so taking the daily dose in the morning is an appropriate strategy to minimize this.

TAKEAWAY/KEY POINTS:

MAOIs are usually reserved for second-line or third-line treatment options if previous trials of SSRIs or SNRIs have not been effective at optimal doses. This is due to their relatively poor tolerability including side effects such as insomnia, palpitations, orthostatic hypotension, weight gain, and headaches. Furthermore, irreversible MAOIs present the additional side effect of sexual dysfunction and a potentially life-threatening interaction with tyramine-rich foods. Examples of MAOIs include irreversible MAOIs (phenelzine, tranylcypromine), and reversible MAOIs (moclobemide) which are better tolerated.

REFERENCE:

- [1] Katzman MA, Bleau P, Blier P, Chokka P, Kjernisted K, Van Ameringen M. Canadian clinical practice guidelines for the management of anxiety, posttraumatic stress, and obsessive-compulsive disorders. *BMC Psychiatry*. 2014;14(1):1-83. doi:10.1186/1471-244X-14-S1-S1. <http://bmccomunity.biomedcentral.com/articles/10.1186/1471-244X-14-S1-S1>.
- [2] Dion N and Filteau M. Anxiety Disorders. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. <https://myxtb.ca>.

The correct answer is: A washout period of at least 4 weeks is required when switching from fluoxetine to phenelzine

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